infested areas was about 35 days old, and almost every field examined showed signs of severe attack. A careful examination showed that in the near vicinity there were several fields which had been sown earlier and in which crop was in the earhead stage. Plants in these fields showed unmistakable signs of past case-worm attack. It is likely that these mild infestations escaped the notice of the cultivators. As the life history of this insect is rather short, it bred in these fields and the emerging generation of moths found suitable stages of young paddy over wide areas and infested these. In due course, by the concerted effort of the officers of the Agricultural Department, the infestation was brought under control.

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March 7, 1968.

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17. PRELIMINARY STUDIES ON THE BIOLOGY OF *NEOCHRYSOCHARIS* SP. (EULOPHIDAE; HYMENOPTERA) A PARASITE OF *PHYTOMYZA ATRICORNIS* MEIGEN

Phytomyza atricornis M., pea leaf miner is a polyphagous pest attacking more than 73 different host plants distributed in 13 different families. A number of parasites of this pest have been reported from various parts of the world. Voukassovitch (1928) recorded *Solenotus viridis* F., and *Chrysocharis elongatus* Thoms. as parasites of this pest in Yugoslavia. Kelsey (1937) recorded 40 to 65 per cent parasitisation of the larvae of *P. atricornis* by a braconid parasite, *Dacnusa areolaris* Nees in New Zealand. Tashkir Ahmad & Gupta (1941) recorded *Solenotus* sp. parasitising the larvae of *P. atricornis* in India. Viggiani (1962) has recorded two eulophid parasites namely *Achrysocharella formosa* Westw., and *Closterocerus trifasciatus* Westw., of this pest in Italy.

During the course of field observations and laboratory rearing a larval eulophid parasite, *Neochrysocharis* sp. was recorded in Gwalior. Its biology, symptoms of injury to host larvae and extent of parasitisation were studied.

The parasitised larva took no food and was sluggish. Its colour changed to blackish as time advanced and it became shrunken.

Biology. The parasite laid one to two eggs within the body of the host. The eggs hatched in 4-5 days and the grubs on hatching fed for 3-4 days inside the body of host bringing about its death at the same time. They then pupated within the body of the host. Adult parasite emerged in 2-3 days. The colour of the pupa was black. A single life cycle was completed in 11-12 days and adults lived for 3 days. The average duration of each period recorded in 5 cases is summarised in Table 1.

TABLE 1

LIFE CYCLE PERIOD AND LONGEVITY OF ADULTS OF *Neochrysocharis* SP.

Month	Incubation period (in days)	Larval period (in days)	Pupal period (in days)	Life cycle period (in days)	Adult longevity (in days)
January 1967	5	4	3	12	3
February 1967	4	4	3	11	3

Extent of parasitism and period of activity. To study its activity and the extent of parasitism, regular collection of the larvae of the pest along with the mined leaves was done and the larvae were examined individually for parasites. The parasite first appeared in the field during the second week of January and continued parasitising the larvae of the pest, up to the end of March 1967. Later on it disappeared. Percentage parasitism was found to be 16 to 30 in February, 44 to 84 in March and was low in January, 2 to 14.

TABLE 2

PERCENTAGE OF PARASITISM OF THE LARVAE OF *P. atricornis* BY *Neochrysocharis* SP.

Date of Collection of the pest	Total number of larvae collected	Number of larvae found parasitised	Percentage
20.I.67	50	1	2
25.I.67	50	4	8
30.I.67	50	7	14
5.II.67	50	8	16
15.II.67	50	9	18
25.II.67	50	15	30
12.III.67	50	22	44
22.III.67	50	33	66
30.III.67	50	42	84

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18. AN INSTANCE OF THE COPRA BEETLE, *NECROBIA RUFIPES* DE GEER (COLEOPTERA: CLERIDAE) OCCURRING ON WHALE SKELETON

The nearly cosmopolitan copra beetle (also known as the red-legged ham beetle), *Necrobia rufipes* De Geer is known to occur in dried ham, bacon, cheese, bonemeal, fish manure, copra, dried fruits and nuts. A preliminary survey by the authors has shown that this beetle is a very destructive pest attacking stored dried fish along Malabar coast.

In the Department of Zoology, Malabar Christian College, Calicut, the skeleton of a toothed whale showed the presence of a considerable number of this beetle, inhabiting the crevices and spongy parts of the bones. The bones, having been recently prepared, must have still contained some dried animal tissues and fat, thus providing food for the beetles. It is presumed that the bones were infested either before they were brought to the department, or subsequently, as a result of migration of the beetles from a laboratory culture which was at that time being maintained in the department.

Incidentally, a review of literature has shown that there is a report on the occurrence of this beetle on an elephant skeleton.

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